Contents of Volume 25 (2001)

NUMBER 1 JANUARY–FEBRUARY 2001

The interference threshold of cardiac pacemakers in electric 50 Hz fields
A. Scholten and J. Silny 1

Computerized breast thermography: study of image segmentation and temperature cyclic variations
E.Y.K. Ng, Y. Chen and L.N. Ung 12

Selection of pulse oximetry equipment for ambulatory monitoring
C.W. Barratt, H. Vyas, B.R. Hayes-Gill and J.A. Crowe 17

Axial reciprocation of rotating impeller: a new concept of antithrombogenecity in centrifugal pump
K.X. Qian, P. Zeng, W.M. Ru, H.Y. Yuan, Z.G. Feng and L. Li 25

Optimization of the defibrillation current density in the heart region by a two-layer segmented electrode
S. Papazov, K. Brandiski and I. Daskalov 28

Longitudinal variations of characteristic frequencies of skeletal muscle fibre potentials detected by a bipolar electrode or multi-electrode
N.A. Dimitrova, G.V. Dimitrov and O.A. Nikitin 34

NUMBER 2 MARCH–APRIL 2001

The development of a closed-loop controlled functional electrical stimulation (FES) in gait training
Y.-L. Chen, Y.-C. Li, T.-S. Kuo and J.-S. Lai 41

Monitoring of fluctuating airway obstruction and episodes of coughing by thoracic electrical impedance
F.A. Hatib, T. Neycheva, M.S. Shenkada, T.A. Popov and I.K. Daskalov 49

Numerical computation as a tool to aid thermographic interpretation
E.Y.K. Ng and N.M. Sudharsan 53

A computerized data acquisition system for infusion devices–a clinical support tool, or a risk management took?
S.Y. Belal, A.J. Nevill and P. Jeyaratnam 61

Assessment of balanced biphasic defibrillation waveforms in transthoracic atrial cardioversion
V. Krasteva, E. Trendafilova, A. Cansell and I. Daskalov 68

Effect of parameters altering with muscle fibre functional state on power spectra of spatially filtered extracellular potentials
G.V. Dimitrov and N.A. Dimitrova 74

The nonlinear dynamical analysis of the EEG in schizophrenia with temporal and spatial embedding dimension
Y.-J. Lee, Y.-S. Zhu, Y.-H. Xu, M.-F. Shen, S.-B. Tong and N.V. Thakor 79

Contents of Volume 25 (2001)

NUMBER 1 JANUARY–FEBRUARY 2001

The interference threshold of cardiac pacemakers in electric 50 Hz fields
A. Scholten and J. Silny 1

Computerized breast thermography: study of image segmentation and temperature cyclic variations
E.Y.K. Ng, Y. Chen and L.N. Ung 12

Selection of pulse oximetry equipment for ambulatory monitoring
C.W. Barratt, H. Vyas, B.R. Hayes-Gill and J.A. Crowe 17

Axial reciprocation of rotating impeller: a new concept of antithrombogenecity in centrifugal pump
K.X. Qian, P. Zeng, W.M. Ru, H.Y. Yuan, Z.G. Feng and L. Li 25

Optimization of the defibrillation current density in the heart region by a two-layer segmented electrode
S. Papazov, K. Brandiski and I. Daskalov 28

Longitudinal variations of characteristic frequencies of skeletal muscle fibre potentials detected by a bipolar electrode or multi-electrode
N.A. Dimitrova, G.V. Dimitrov and O.A. Nikitin 34

NUMBER 2 MARCH–APRIL 2001

The development of a closed-loop controlled functional electrical stimulation (FES) in gait training
Y.-L. Chen, Y.-C. Li, T.-S. Kuo and J.-S. Lai 41

Monitoring of fluctuating airway obstruction and episodes of coughing by thoracic electrical impedance
F.A. Hatib, T. Neycheva, M.S. Shenkada, T.A. Popov and I.K. Daskalov 49

Numerical computation as a tool to aid thermographic interpretation
E.Y.K. Ng and N.M. Sudharsan 53

A computerized data acquisition system for infusion devices–a clinical support tool, or a risk management took?
S.Y. Belal, A.J. Nevill and P. Jeyaratnam 61

Assessment of balanced biphasic defibrillation waveforms in transthoracic atrial cardioversion
V. Krasteva, E. Trendafilova, A. Cansell and I. Daskalov 68

Effect of parameters altering with muscle fibre functional state on power spectra of spatially filtered extracellular potentials
G.V. Dimitrov and N.A. Dimitrova 74

The nonlinear dynamical analysis of the EEG in schizophrenia with temporal and spatial embedding dimension
Y.-J. Lee, Y.-S. Zhu, Y.-H. Xu, M.-F. Shen, S.-B. Tong and N.V. Thakor 79

NUMBER 3 MAY–JUNE 2001

Three-dimensional static parametric modelling of phasic colonic contractions for the purpose of microprocessor-controlled functional stimulation
P.Z. Rashev, M.P. Mintchev and K.L. Bowes 85

An accurate programmable ECG simulator
M.J. Burke and M. Nasor 97

Ventricular energetics during mechanical ventilation and intraaortic balloon pumping–computer simulation
C. De Lazzari, M. Darowski, G. Ferrari, F. Clemente and M. Guaragno 103

Pathological analysis of myocardial cell under ventricular tachycardia and fibrillation based on symbolic dynamics
Z. Hongxuan, Z. Yisheng, X. Yuhong and N.V. Thakor 112

Unstable Morse code recognition system with back propagation neural network for person with disabilities
D.-T. Fuh and C.-H. Luo 118

Commentary 'Effects of asymmetric branch flow rates on aerosol deposition in bifurcating airways' by Z. Zhang, C. Kleinstreuer and C.S. Kim
T. Martonen 124

Response
C. Kleinstreuer 127

News & Product Update 128

Calendar 131

NUMBER 4 JULY–AUGUST 2001

Mechanical properties of abdominal aortic aneurysm wall
M.J. Thubrikar, M. Labrosse, F. Robicsek, J. Al-Soudi and B. Fowler 133

Implementation of a microcontroller-based semi-automatic coagulator
K. Chan, A. Kirumira and A. Elkateeb 143

Fuzzy oxygen control system for the indirect calorimeter of premature infants
S.-C. Lin, C.-H. Luo and T.-F. Yeh 149

Apaptive fuzzy logic restriction rules for error correction and safe stimulation patterns during functional electrical stimulation
M. Hansen and M.K. Haugland 156

Transthoracic defibrillation with chopping-modulated biphasic waveforms
V. Krasteva, A. Cansell and I.K. Daskalov 163

Fixed bending current for Elekta SL25 linear accelerators
J.G.M. Kok 169

A methodology for evaluation of boundary detection algorithms on breast ultrasound images
J.-H. Hsu, C.-S. Tseng and S.-C. Chen 173

A microvolt calibrator for EMG systems
M.P. Bolton 178

Calendar 180

NUMBER 5 SEPTEMBER–OCTOBER 2001

Determining the temperature distribution of swine aorta with simulated atheromatous plaque under pulsed laser irradiation: an experimental attempt to detect the vulnerability of atherosclerosis
T. Matsui, T. Arai, K. Matsumura, T. Ishizuka, K. Hagisawa, B. Takase, S. Sato, M. Suzuki, M. Kikuchi and A. Kurita 181

The interference threshold of unipolar cardiac pacemakers in extremely low frequency magnetic fields
A. Scholten and J. Silny 185

Possibilities for predictive measurement of the transthoracic impedance in defibrillation
V. Krasteva, F. Al Hatib, E. Trendafilova and I. Daskalov 195

Statistical modelling of human blood carbon dioxide partial pressure
M. Ibbini and M. Bani Amer 201

An instrumented object for evaluation of lateral hand grasp during functional tasks
A. Inmann and M. Haugland 207

Combined coding and wavelet transform for ECG compression
A. Alshamali and A. Al-Smadi 212

Automatric detection of atrial fibrillation and flutter by wave rectification method
I. Christov, G. Bortolan and I. Daskalov 217

Numerical uncertainty and perfusion induced instability in bioheat equation: its importance in thermographic interpretation
E.Y.K. Ng and N.M. Sudharsan 222

News & Product Update 230

Calendar 233

NUMBER 6 NOVEMBER–DECEMBER 2001

Evaluation of the strength of elbow flexors in patients with neuromuscular diseases
J. Rozman, M. Bunc and A. Zupan 235

Correlation among Poincaré plot indexes and time frequency domain measures of heart rate variability
S. Carrasco, M.J. Gaitán, R. González and O. Yánez 240

Technical note: Reference values of haematocrit in young people and relationship with altitude
M. Ge, Z. Ren, Q. Yang, Y. Zhang, S. Yin and W. Yang 249

Statistical analysis of healthy and malignant breast thermography
E.Y.K. Ng, L.N. Ung, F.C. Ng and L.S.J. Sim 253

Technical note: A compact data logger for ambulatory skin temperature measurement
M.P. Bolton, K. McGuinness, J. Cooley, L. Hayes and A. Howell 264

Technical note: Simple vibroacoustic foetal stimulator
D. Stojanović, A. Frković, H. Filiplić-Stojanović and N. Kirinčić 269

Technical note: A durable impeller pump with rolling bearing and purge system
K.X. Qian, P. Zeng, W.M. Ru and H.Y. Yuan 273

Calendar 276